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PACKAGING

THE CAHNERS MAGAZINE FOR DECISION-MAKERS/OCTOBER 1987

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PREFERENCES FOR BEER CONTAINERS VARY WIDELY

Glass rates highest among young singles and couples

A recent survey of consumers by PACKAGING magazine revealed wide differences in the container of preference for beer.

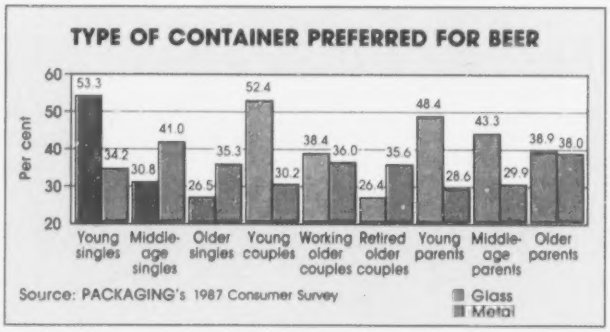
The survey, conducted in conjunction with NFO Research, Inc., obtained responses from 721 households throughout the United States.

When asked to state their preferences in beer containers, more than 50 per cent of the young singles and young couples chose glass. Neither glass nor metal rated higher in any group. The preference for glass dropped to its lowest level among older singles and retired older couples.

Preference for metal was highest among middle-age singles; lowest among young parents.

Overall, glass was preferred by 39.5 per cent of all respondents; metal by 34.1 per cent.

Plastic containers were chosen by only 7.2 per cent of all respondents.



VALUE OF SHIPMENTS OF CORRUGATED RISES

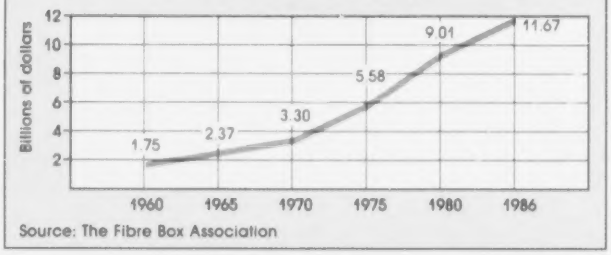
Latest figures show 1986 was record year

A new report from the Fibre Box Association, Chicago, reveals record-breaking numbers for the corrugated products industry.

The value of industry shipments of corrugated cases reached $11.67 billion in 1986, an increase of $260 million over 1985.

Annual shipments of finished corrugated and solid-fibre products totaled 283.9 billion square feet, an increase of 6.2 per cent over 1985 and 6.1 per cent over 1984.

Also in 1986, according to the report, the number of industry plants rose from 1,463 to 1,495.



FOODSERVICE INDUSTRY FORECAST REVISED

Strong economy prompts increase

A mid-year report on the foodservice industry shows the industry growing faster than expected.

At the beginning of 1987, the Cahners Publishing magazine *Restaurants & Institutions* projected real growth of the foodservice industry at 1.6 per cent. Since then, R&I has raised its projection to 2.2 per cent.

One reason cited by the magazine is the GNP's first-quarter rise of 4.4 per cent and second-quarter increase of 2.6 per cent —much stronger than the 1986 rate of 2.5 per cent.

PACKAGING LEADTIMES (in weeks)

	Aug '87	July '87	July '86
Metal cans	2.9	3.3	2.9
Composite cans	2.7	2.5	3.2
Glass containers	3.4	4.1	4.7
Plastic bottles	2.8	3.7	3.6
Plastic film	3.2	3.6	3.8
Laminates	3.8	4.3	5.4
Corrugated containers	2.8	2.7	3.1
Multiwall bags	3.4	3.8	3.5
Kraft paper	3.0	2.7	3.1
Folding cartons	3.8	3.6	3.5
Fiber drums	2.5	2.8	3.1
Industrial crates	2.6	2.6	2.8
Strapping	2.5	2.5	2.6
Steel drums (shipping)	2.6	2.8	3.1
Pallets	2.5	2.7	2.6

Source: Purchasing, a Cahners publication

TRANSACTION PRICES

	Aug '87	July '87	Aug '86
Aluminum can stock ($/lb.)	1.08	1.08	1.03
LDPE/liner($/lb.)	.34	.34	.34
LDPE/clarity($/lb.)	.35	.35	.26
LLDPE/butene($/lb.)	.35	.35	.26
LLDPE/octene($/lb.)	.45	.45	.29
HDPE/blow molding($/lb.)	.36	.36	.29
HDPE/film grade($/lb.)	.37	.36	.29
Polystyrene/general purpose($/lb.)	.52	.55	.33
Polystyrene/impact($/lb.)	.55	.58	.35
PVC/general purpose($/lb.)	.35	.35	.29
PP/homopolymer($/lb.)	.43	.43	.33
PP/copolymer($/lb.)	.56	.53	.43
ABS($/lb.)	1.07	1.07	.98
Unbleached kraft/shipping sack($/ton)	460	460	400
Unbleached kraft/grocery sack($/ton)	400	400	340
Linerboard, 42 lb. east($/ton)	380	350	320
Linerboard, 42 lb., west($/ton)	380	350	320
Corrugated med., semichemical($/ton)	350	320	290
Recycled folding boxboard, clay coated($/ton)	430	430	385
Recycled folding boxbd., chipbd.($/ton)	340	340	300
Bleached kraft, folding carton($/ton)	630	630	600

Source: Purchasing, a Cahners publication

PACKAGING ADHESIVES TO GROW THROUGH 1996

Co-extrusion tie-coat materials to lead field

According to a new report from Business Communications Co., Norwalk, Conn., the total market for packaging adhesives is expected to grow at a 2.7 per cent average annual rate through 1996. During that period, consumption of hot-melt adhesives is expected to grow at an annual rate of 8.7 per cent. And co-extrusion tie-coat adhesives are seen growing extremely rapidly —by an average 33 per cent each year.

Starch-derived adhesives will remain the single largest adhesive product for packaging throughout the next decade, said the study, but the growth of these and other naturally derived adhesives will be slow: approximately 1.5 per cent.

Synthetic adhesives will continue to replace starch and animal glues between now and 1996, in part because the synthetics set faster and therefore allow higher machine speeds.

The study noted that sales of co-extrusion adhesive will increase during the next decade from $7 million to almost $30 million. Sales of hot-melt adhesive will reach $310 million by 1996.

MORE STATS . . .

The American Paper Institute, New York, reported that U.S. **exports of kraft linerboard** rose 20.5 per cent in 1986, to a total of nearly 2.2 million short tons. The weakening of the dollar and strong growth in demand worldwide are two reasons, said the institute . . . **Automation in manufacturing industries** is growing in popularity. A report from the research firm FIND/SVP, New York, predicted annual growth of 15 per cent in the factory automation market through 1990 . . . The Packaging Machinery Manufacturers Institute, Washington, D.C., reported that new **orders for packaging and packaging-related converting machinery** rose 10.5 per cent between June 1986 and June 1987.

SURVEY REVEALS PLANS FOR '88

Use of PET jars, tamper-evident closures, plastic bottles and aluminum cans is expected to grow the most next year

By Mark Spaulding
Associate Editor

PACKAGING asked food and beverage manufacturers about their current and planned consumption of almost 100 different packaging materials, containers and supplies. The 975 responses confirm the hot-growth areas we've been tracking in the past few years, including the specialized packaging concepts of asepties, controlled-atmosphere and microwavable packaging.

Big gainers in the coming 12 months—categories of whose current users are expected to buy more—include multilayer plastic bottles, tamper-evident closures, PET jars, EVOH, aluminum cans, shrink-film for tray-packs, peelable lidding, shrinkable label-bands, in-molding labeling and flexible co-extruded materials.

Of course, not all materials will be increasing in usage. Among those expected to decline are aluminum-foil trays, aluminum foil, cellophane, corrugated drums, foil labels, glass bottles and jars, metal strapping and steel cans.

Containers

PACKAGING obtained data on 25 different types of containers ranging from aerosols and bag-in-box constructions to bottles, cans and trays. Plastic-based containers far and away lead other types of materials as expecting the most growth in 1988.

Leading this pack are multilayer plastic bottles and jars, 82.4 per cent of whose current users are planning increased consumption next year. These containers will see more use in packaging sauces, condiments, and salad dressings.

PET bottles and jars are being used by nearly 12 per cent of the packagers surveyed and that number will increase next year as 2.5 per

TOP 10 FASTEST-GROWING PACKAGING MATERIALS
Will you be using more of this type of material or container in 1988?

	Per cent of current users who said usage will increase in 1988
1. Multilayer plastic bottles and jars	82.4%
2. Tamper-evident closures	80.5
3. PET bottles and jars	77.7
4. EVOH	75.8
5. Aluminum cans	75.0
6. Shrink-film for tray-packing	74.0
7. Peelable lidding	73.9
8. Shrinkable-bands for labeling	73.3
9. In-mold labeling	71.4
10. Co-extruded flexible materials	70.0

More than 82 per cent of current buyers will use more multilayer plastic bottles in 1988

PROJECTED USAGE OF CONTAINERS IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Aerosols	11.7%	0.1%	24.2%	72.7%	3.1%
Bag-in-box (dry products)	19.9	1.4	60.7	37.7	1.6
Bag-in-box (liquids)	18.1	0.7	58.0	38.8	3.2
Bags, multiwall	22.7	0.5	47.5	47.5	5.0
Bags/Pouches, Pre-made	29.4	1.3	53.0	38.1	8.9
Bottles/Jars					
Glass	30.5	0.4	50.6	35.8	13.6
PET	11.6	2.5	77.7	18.2	4.1
Polyethylene	11.4	0.5	61.0	34.0	5.0
PVC	5.2	0.2	46.5	48.8	4.7
Polypropylene	4.7	0.4	47.5	50.0	2.5
Multilayer plastics	3.1	1.0	82.4	17.6	—
Cans					
Aluminum	12.0	0.8	75.0	21.4	3.6
Composite	8.8	0.5	53.3	37.6	9.1
Paperboard	4.6	0.5	52.3	38.6	9.1
Plastic	4.0	1.5	66.7	31.2	2.1
Steel	20.7	0.2	44.4	42.2	13.4
Cartons					
Gable-top	9.6	0.2	60.4	35.4	4.2
Paperboard	39.3	0.4	64.0	31.9	4.1
Cups/Tubs					
Plastic	22.4	1.5	63.3	33.8	2.9
Paperboard	6.5	0.2	60.4	33.9	5.7
Pails					
Metal	5.4	0.1	21.7	65.3	13.0
Plastic	25.0	0.5	50.5	45.4	4.1
Trays					
Aluminum foil	7.0	0.1	43.1	35.4	21.5
Plastic	13.7	1.3	68.3	29.3	2.4
Tubes, squeezable	2.0	0.2	45.0	55.0	—

PROJECTED USAGE OF FLEXIBLE MATERIALS IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Aluminum foil	14.4%	0.3%	43.0%	38.0%	19.0%
Cellophane	18.0	0.4	42.3	40.9	16.8
Co-extrusions	18.1	1.1	70.0	28.2	1.8
EVA	4.5	0.1	53.7	43.9	2.4
EVOH	2.8	0.8	75.8	21.2	3.0
Ionomer	1.3	—	40.0	60.0	—
Laminations	20.9	0.6	61.4	35.9	2.7
Metallized film	12.7	1.3	64.8	31.1	4.1
Nylon	3.4	0.1	53.3	46.7	—
Paper	18.6	0.3	43.5	50.9	5.6
Polyethylene	24.1	0.2	54.5	41.5	4.0
Polyethylene, linear low-density	12.0	0.2	65.4	32.7	1.9
Polyester	4.4	—	52.6	44.8	2.6
Polypropylene	16.0	0.4	65.4	30.9	3.7
PVC	5.5	0.5	58.5	33.9	7.6
PVDC	2.2	0.3	57.1	42.9	—
Shrink film (individual packages)	35.4	1.7	65.4	28.8	5.8
Stretch film (individual packages)	26.2	0.9	57.4	40.0	2.6

cent more respondents said they will begin to use these containers for their products. Nearly 78 per cent of the current buyers see greater usage by their companies next year.

In fact, the popularity of PET beverage bottles has helped spur new growth for this container in other food product areas. Witness McCormick & Co.'s recent decision to switch its entire line of spices under the McCormick and Schilling brands to PET jars. PACKAGING's survey shows a total of 116 users expecting the same or expanded use for this container.

Food packagers are also big on plastic trays and cans. Although less than 18 per cent of the readers queried are currently using these containers, their ranks will grow roughly 20 per cent next year, with about 65 per cent of the current buyers planning greater consumption.

Greater use of aluminum cans is predicted by 75 per cent of the buyers questioned, with 73 per cent of those companies using aluminum cans for beer and softdrinks. This is not unexpected. But more companies are using this container for products other than carbonated beverages. Almost 17 per cent of aluminum can users who predict greater growth are in the more innovative product areas for this package.

Metal cans, in general, for food and beverages will decline slightly over the next nine years, according to a study by Business Communications Co., Inc. The Norwalk, Conn.-based firm estimates that the metal can's share of food packaging will fall by 0.2 per cent or roughly 2 billion containers by 1996.

However, our survey shows a healthy percentage of steel-can users planning expanded growth; 86.6 per cent of the 187 packagers responding in this category see equal or greater steel-can purchases for 1988, with 13.4 per cent seeing cutbacks in their use.

Flexible materials

Eighteen categories of flexible materials were analyzed in PACKAGING's survey. Once again, the most innovative, up-to-date materials will see the greatest growth in 1988.

A common element in high-barrier plastic containers designed to block out oxygen is EVOH copolymer. This material, as a resin or film, is being used by only 2.8 per cent of the survey's respondents, but nearly 100 per cent of these companies report plans for increased consumption next year. Clearly, the extensive growth expected for multilayer, plastic bottles is reflected in similar growth for this integral part of these containers.

A second high-tech material, co-extrusions, will see growth by 70 per cent of the packagers now using it. Co-extruded films are being used to package a variety of products from meat to candy.

Running about evenly in terms of future growth are shrink-film for individual packages, low-density polyethylene, and metallized film. Approximately 65 per cent of current buyers expect to purchase more of these flexible materials in 1988. The number of companies using metallized film will grow by about 10 per cent with the overall uses for it and LDPE continuing to be roasted coffee, candy, butter, frozen vegetables, and metallized film-seals for other containers.

Companies using shrink-film for individual packages will grow by 5 per cent. Food products expected to see greater use of individually shrink-packed containers include candy, prepared meats, cookies, and six-packs of canned soft drinks.

Labels

Paper, pressure-sensitive and adhesive-applied-on-line continue to be the most popular types of labeling among today's food packagers. Sixty-four per cent of the respondents to PACKAGING's survey say they currently use paper labels, followed by 53.3 per cent using pressure-sensitive labels and 27.3 per cent using adhesive-applied-on-

line labels.

The total indicates that many packagers are now using more than one type. None of these label types, however, are reported to show the kind of outstanding growth next year expected of shrinkable-band, in-mold and plastic labeling.

With 73.3 per cent of users planning greater consumption of shrinkable bands, this category appears to be growing the fastest. Expect to see more use of shrinkable-bands for labeling food products such as cheese, butter and chocolate.

In-mold labeling for food packaging is a method whose time has finally come. Using this process, the label is applied to a plastic container as it is being blow-molded. Currently, it is being used by only 3.2 per cent of readers queried, but fully 94 per cent of these packagers will use similar or expanded quantities of in-mold labeling in 1988 for beverages like wines and distilled liquors, and dairy products such as fluid milk, cheese and butter.

Several more packagers say they will join the ranks of companies using plastic labels next year. Together with almost 64 per cent of current users, the trend toward expanded use of plastic labels will continue.

Closures

PACKAGING's survey compiled data on 13 kinds of closures, both primary and secondary types. Those that are expected to see the greatest growth in 1988 include tamper-evident closures, peelable lidding, inner seals and easy-open can ends.

With 80.5 per cent of current users planning to buy more tamper-evident closures, this category leads the pack. The survey found 3.1 per cent more respondents planning to use T-E caps for the first time next year, bringing the number of packagers using this device to more than 22 per cent of the readers questioned.

Tamper-evident closures are being used in all but four of the 36 food categories we analyzed. Fluid milk, wine and distilled-liquor packagers see the greatest growth for T-E closures in their markets while chocolate, confectionery products and beer will see above-average growth in the use of tamper-evident caps.

Peelable lidding, although used by only 6 per cent of respondents, will be purchased in greater quantities by almost 74 per cent of current buyers. This type of closure will be adopted next year by 2 per cent more of the companies we surveyed.

More than 9 per cent of packagers queried say they will use inner seals as a type of closure for their food products in 1988, and 67.5 per cent of current buyers see even greater consumption next year. Inner seals continue to be an important primary closure for fluid milk, sauces and dressings, cooking oils and roasted coffee.

Easy-open can ends, either steel or aluminum, are expected to be used in greater quantities by 66.1 per cent of current buyers. The most popular uses for this closure remain beer and soft drinks, however, 3 per cent of the packagers say their companies will use similiar or greater amounts of easy-open can ends next year for packaging fruits, vegetables and seafood.

Metal closures and screwcaps continue to be the most prevalent, used by 32.2 and 20.7 per cent of respondents, respectively. However, both of these categories have the least number of new packagers adopting these kinds of closures in the coming year.

Case packing-shipping

Bulk boxes, corrugated cases, drums and pallets are among the case-packing and shipping materials studied in our survey. PACKAGING found high percentages of companies using wood pallets, corrugated bulk boxes and cases, and stretch-wrap for unit loads, and all these categories will see expanded use by roughly 57 per cent of current

PROJECTED USAGE OF LABELS IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Labels					
Foil	22.2%	0.9%	46.6%	39.7%	13.7%
Paper	64.5	0.5	54.6	39.6	5.8
Plastic	6.7	1.1	63.9	29.5	6.6
Pressure-sensitive	53.3	1.7	56.6	37.0	6.4
Adhesive applied on-line	27.3	0.5	55.8	39.0	5.2
In-mold	3.2	0.8	71.4	22.9	5.7
Heat transfer	5.1	0.3	44.4	46.7	8.9
Shrinkable bands	7.4	2.0	73.3	21.4	5.3

PROJECTED USAGE OF CLOSURES IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Metal closures	32.2%	0.1%	52.5%	35.8%	11.7%
Plastic closures	27.4	1.4	60.2	37.3	2.5
Screw caps	20.7	0.5	56.4	40.2	3.4
Vaccum lug caps	5.5	0.2	52.1	41.6	6.3
Shrinkable bands	10.1	1.3	65.3	29.4	5.3
Inner seals	8.2	1.0	67.5	28.9	3.6
Dispensing closures (Push-pull, flip-top, etc.	7.1	0.5	55.9	41.2	2.9
Dispensing closures (Shaker-type)	2.3	0.1	55.9	41.2	2.9
Easy-open cans	11.5	1.6	66.1	31.2	2.7
Peelable lidding	5.9	1.7	73.9	24.6	1.5
Plastic overcaps	12.7	0.9	57.9	36.8	5.3
Child-resistant	1.3	0.1	60.0	20.0	20.0
Tamper-evident closures	19.0	3.1	80.5	17.9	1.6

Microwavable packaging tops the list with 89 per cent planning increased consumption in the coming months

PROJECTED USAGE OF BULK PACKAGING IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Bulk Boxes					
Corrugated	55.7%	0.9%	61.1%	36.6%	2.3%
Metal	0.9	—	33.3	66.7	—
Plastic	4.5	0.3	68.4	23.7	7.9
Corrugated Cases					
Regular	62.0	0.5	63.8	34.2	2.0
High-strength	14.8	0.7	67.4	32.6	—
Partitioned	24.9	0.2	53.5	42.8	3.7
Preprinted linerboard	19.6	1.0	62.5	33.1	4.4
Drums					
Corrugated	10.3	0.1	36.7	48.9	14.4
Plastic	9.4	—	43.0	49.4	7.6
Metal	12.4	0.1	34.0	56.6	9.4
Pallets					
Plastic	12.4	0.7	51.8	41.9	6.3
Wood	72.6	0.2	50.8	43.1	6.1
Shrink-film, tray-packs	18.4	1.7	74.0	21.5	4.5
Slip sheets	38.6	0.5	53.9	41.6	4.5
Stretch-wrap, unit loads	55.7	0.7	64.5	34.4	1.1
Strapping					
Metal	12.6	0.2	42.3	44.2	13.5
Plastic	37.0	0.2	44.1	48.7	7.2
Tape					
Gummed	45.1	0.4	51.3	42.3	6.4
Pressure-sensitive	10.8	0.2	66.1	33.0	0.9

PROJECTED USAGE OF PACKAGING CONCEPTS IN 1988
Per cent of survey respondents

	Currently use material	New material will begin to use in 1988	In 1988 will use		
			More	Same	Less
Aseptic	7.5%	2.1%	76.2%	20.2%	3.6%
Blister	3.1	1.1	64.7	29.4	5.9
Controlled atmosphere	11.0	2.1	73.3	23.8	2.9
High-barrier	12.9	2.1	75.2	21.7	3.1
Microwavable	8.8	3.9	89.3	8.8	1.9
Multipacks	14.1	1.0	73.9	25.3	0.8
Plastic squeeze bottles	4.7	1.0	73.1	23.0	3.9
Retortable pouch	2.0	1.3	84.0	12.0	4.0
Reclosable bags	5.5	1.7	71.0	22.5	6.5
Single-serve	21.6	1.4	74.1	23.3	2.6
Skin packaging	1.7	0.6	79.0	15.7	5.3
Tamper-evident	19.5	3.2	83.5	14.4	2.1
Vacuum	16.7	0.6	62.8	33.9	3.3

buyers. Two products, however, stand out as having the greatest potential for expanded use by food packagers: shrink-film for tray packs and high-strength corrugated cases.

Food companies across-the-board are using shrink-film for tray packing. More than 20 per cent of the packagers say they will be using this material next year and 74 per cent of the current buyers are planning for additional use.

High-strength corrugated cases are being employed by food packagers in nearly every division of the survey. All 100 per cent of companies using this kind of super-strong corrugated say they see similar or greater consumption of this material for their case-packing needs next year.

Other case-packing and shipping products expected to see increased use in 1988 include preprinted-linerboard cases, pressure-sensitive sealing-tape, plastic pallets and slip sheets.

Packaging concepts

Some of the most innovative and startling developments in food packaging revolve around the specialized concepts that 10 years ago were only ideas in search of hard engineering. Of the nearly 100 categories the survey looked at, these concepts received the highest percentages for increased growth.

Microwavable packaging tops the list with more than 89 per cent of current buyers planning increased consumption in the coming months. They will be applying this concept to greater numbers of frozen foods, especially vegetables and fish.

Sales of these advanced materials for prepared foods will reach 2.2 billion units by 1991, according to a study by C.H. Kline & Co., Fairfield, N.J. Nearly 60 per cent of these sales will be for entrees and dinners, with many of the products using susceptors, or metallized film laminated to paper or plastic carriers, to provide localized heating or browning.

The greatest increase, in terms of sheer volume, remains tamper-evident packaging in general. Nearly 23 per cent of the packagers will use some type of T-E materials for their food products in 1988, with 83.5 per cent of current users planning for greater purchases. Tamper-evident packaging is being applied by companies in all categories of the survey, especially dairy foods, sauces and dressings, and beverages. These figures are consistent with the number of readers planning on increased consumption of T-E closures, inner seals, and shrinkable bands.

By 1991, $12.4 billion worth of single-serve containers will be used each year in the U.S., according to a study by Business Communications. This is a nearly 12 per cent increase in four years and reflects a similar increase in the number of our readers planning to use single-serve packaging for the first time in 1988. Twenty-three per cent of packagers responding say they'll be using this concept, with 74.1 per cent of current buyers using more single-serve packaging next year.

Less than 3 per cent of the respondents will be employing retortable pouch packaging next year. Overall, the market for these products is slated to grow to only $100 million by 1995, according to FIND/SVP, New York City.

Other packaging concepts expected to see above-average growth in the coming months include asepties, skin-packaging, high-barrier packaging and multi-packs. ■

PLEASE RATE THIS ARTICLE
How would you rate this article? To reply, circle the appropriate number on the reader service card:

Outstanding	472
Above Average	473
Average	474
Below Average	475

MARK SPAULDING
Associate Editor

"It is important to note the rapid adoption of special packaging concepts by today's food processors. Tamper-evident and microwavable packaging are here to stay, while more exotic types such as asepties and controlled-atmosphere packaging are gaining converts."

PACKAGING INFORMATION CENTER

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